Claims

## 1. A compound of formula (I);

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$$R^{1}R^{2}N$$

$$R^{12}$$

$$R^{6}$$

$$(I)$$

10 wherein:

Y is phenyl, unsubstituted or substituted with one, two or three substituents;

R<sup>1</sup> is selected from hydrogen, C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, or halosubstitutedC<sub>1-6</sub> alkyl;

 $R^2$  is  $(CH_2)_m R^3$  where m is 0 or 1;

or R<sup>1</sup> and R<sup>2</sup> together with N to which they are attached form an unsubstituted or substituted 4- to 8- membered non-aromatic heterocyclyl ring;

 $R^3$  is hydrogen, an unsubstituted or substituted 4- to 8- membered non-aromatic heterocyclyl group, an unsubstituted or substituted  $C_{3-8}$  cycloalkyl group, an unsubstituted or substituted straight or branched  $C_{1-10}$  alkyl, an unsubstituted or substituted  $C_{5-7}$  cycloalkenyl,  $R^5$ ; or  $R^3$  is an unsubstituted or substituted 5- to 6- membered aromatic heterocyclyl group, or group A:

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 $R^4$  is selected from hydrogen,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, or halosubstituted  $C_{1-6}$  alkyl, COCH<sub>3</sub>, or SO<sub>2</sub>Me;

R<sup>5</sup> is

$$R^{7}$$
  $X$ 

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wherein p is 0, 1 or 2, and X is CH<sub>2</sub>, O, S, SO or SO<sub>2</sub>;

 $R^6$  is halo, an substituted or unsubstituted ( $C_{1-6}$ )alkyl, ( $C_{3-6}$ )cycloalkyl, 4- to 7- membered non aromatic heterocyclyl group;

R<sup>7</sup> is OH, C<sub>1-6</sub>alkoxy, NR<sup>8a</sup>R<sup>8b</sup>, NHCOR<sup>9</sup>, NHSO<sub>2</sub>R<sup>9</sup>, SOqR<sup>9</sup>;

R<sup>8a</sup> is H or C<sub>1-6</sub>alkyl;

R<sup>8b</sup> is H or C<sub>1-6</sub>alkyl;

R<sup>9</sup> is C<sub>1-6</sub>alkyl;

Ra is independently selected from hydrogen, fluoro, chloro or trifluoromethyl;

Rb is independently selected from hydrogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, haloC<sub>1-6</sub> alkoxy, hydroxy, cyano, halo, sulfonyl, CONH<sub>2</sub>, COOH or NHCOOC<sub>1-6</sub> alkyl;

R<sup>12</sup> is hydrogen or C<sub>1-6</sub>alkyl;

q is 0, 1 or 2;

5 or a pharmaceutically acceptable derivative thereof,

wherein the compound is not (5-{[bis-(2-methoxy-ethyl)-amino]-methyl}-4-trifluoromethyl-pyrimidin-2-yl)-(3-chlorophenyl)-amine or {1-[2-(3-chloro-phenylamino)-4-trifluoromethyl-pyrimidin-5-ylmethyl]-piperidin-4-yl}-methanol, formate.

10 2. A compound as claimed in Claim 1 wherein the compound of formula (I) is a compound of formula (Ia):

$$R^1R^2N$$
 $R^{12}$ 
 $R^6$ 
(la)

wherein;

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 $R^1$  is selected from hydrogen,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl and halosubstituted  $C_{1-6}$  alkyl;  $R^2$  is  $(CH_2)_m R^3$  where m is 0 or 1;

or R<sup>1</sup> and R<sup>2</sup> together with N to which they are attached form a 4- to 8- membered non-aromatic ring selected from azetidinyl, pyrrolidinyl, morpholinyl, piperizinyl, piperidinyl, thiomorpholinyl, tetrahydropyridinyl, azapine, oxapine, azacyclooctanyl, azaoxacyclooctanyl and azathiacyclooctanyl any of which can be unsubstituted or substituted by one, two or three substituents selected from C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkylOH, C<sub>1-6</sub> alkoxy, a hydroxy group, a cyano group, halo, sulfonyl group, methylsulfonyl, NR<sup>8a</sup>R<sup>8b</sup>, NHCOCH<sub>3</sub>, (=O), -CONHCH<sub>3</sub> and NHSO<sub>2</sub>CH<sub>3</sub>, C(O)OC<sub>1-6</sub>alkyl;

R³ is hydrogen, 2- or 3- azetidinyl, oxetanyl, thioxetanyl, thioxetanyl-s-oxide, thioxetanyl-s,s-dioxide, dioxalanyl, pyrrolidinyl, tetrahydrofuranyl, tetrahydrothiophenyl, tetrahydrothiophenyl-s,s-dioxide, morpholinyl, piperidinyl, piperazinyl, tetrahydropyranyl, tetrahydrothiopyranyl, tetrahydrothiopyranyl-s-dioxide, tetrahydrothiopyranyl-s,s-dioxide, thiomorpholinyl, thiomorpholinyl-s,s-dioxide, tetrahydropyridinyl, dioxanyl, tetrahydrothiopyran 1,1 dioxide, azapine, oxapine, azacyclooctanyl, azaoxacyclooctanyl, azathiacyclooctanyl, oxacylcooctanyl, thiacyclooctanyl, a C₃-8 cycloalkyl group, a straight or branched C₁-10 alkyl, a C₅-7 cycloalkenyl or R⁵, any of which can be unsubstituted or substituted by one, two or three substituents selected from C₁-6 alkyl, C₁-6 alkoxy, a hydroxy group, a cyano group, halo, sulfonyl group, methylsulfonyl, NR<sup>8a</sup>R<sup>8b</sup>, NHCOCH₃, (=O), and -CONHCH₃ and when R³ is alkyl it can be phenyl or phenyl substituted by halo, hydroxy or cyano;

or  $R^3$  is group A or selected from furanyl, dioxalanyl, pyrrolyl, oxazolyl, thiazolyl, imidazolyl, oxadiazolyl, thiadiazolyl, triazolyl, triazinyl, isothiazolyl, isoxazolyl, thienyl, pyrazolyl, tetrazolyl, pyridinyl, pyrizinyl, pyrimidinyl, pyrazinyl, triazinyl, or tetrazinyl any of which can be unsubstituted or substituted by one, two or three substituents selected from  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, a

hydroxy group, a cyano group, halo, sulfonyl group, methylsulfonyl, NR<sup>8a</sup>R<sup>8b</sup>, NHCOCH<sub>3</sub>, (=O), and -CONHCH<sub>3</sub>;

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 $R^{11}$  is selected from  $C_{1-6}$  alkyl, halosubstituted $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, a hydroxy group, a cyano group, halo, a  $C_{1-6}$  alkyl sulfonyl group, -CONH<sub>2</sub>, -NHCOC<sub>1-6</sub> alkyl, -COOH, -CH<sub>2</sub>COOH, halosubstituted $C_{1-6}$  alkoxy,  $SC_{1-6}$  alkyl and  $SO_2NR^{8a}R^{8b}$ ;

 $R^4$  is selected from hydrogen,  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, or halosubstituted  $C_{1-6}$  alkyl, COCH<sub>3</sub>, and SO<sub>2</sub>Me;

R<sup>5</sup> is

$$R^7$$
  $X$ 

wherein p is 0, 1 or 2 and X is CH<sub>2</sub>, O, S, SO or SO<sub>2</sub>;

 $R^6$  is halo, a substituted or unsubstituted ( $C_{1-6}$ )alkyl, ( $C_{3-6}$ )cycloalkyl, 4- to 7- membered non aromatic heterocyclyl group;

R<sup>7</sup> is OH, C<sub>1-6</sub>alkoxy, NR<sup>8a</sup>R<sup>8b</sup>, NHCOR<sup>9</sup>, NHSO<sub>2</sub>R<sup>9</sup>, SOqR<sup>9</sup>;

R<sup>8a</sup> is H or C<sub>1-6</sub>alkyl;

R8b is H or C1-6alkyl;

R<sup>9</sup> is C<sub>1-6</sub>alkyl;

20  $R^{12}$  is hydrogen or  $C_{1-6}$ alkyl;

Ra is independently selected from hydrogen, fluoro, chloro or trifluoromethyl;

Rb is independently selected from hydrogen,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, halo  $C_{1-6}$  alkoxy, hydroxy, cyano, halo, sulfonyl, CONH<sub>2</sub>, COOH or NHCOOC<sub>1-6</sub> alkyl;

q is 0, 1 or 2;

d is 0, 1, 2 or 3

or a pharmaceutically acceptable derivative thereof

wherein the compound is not

(5-{[bis-(2-methoxy-ethyl)-amino]-methyl}-4-trifluoromethyl-pyrimidin-2-yl)-(3-chlorophenyl)-amine or {1-[2-(3-chloro-phenylamino)-4-trifluoromethyl-pyrimidin-5-ylmethyl]-piperidin-4-yl}-methanol, formate.

3. A compound as claimed in Claim 1 wherein the compound of formula (I) is a compound of formula (Ib):

$$R^{3} \longrightarrow N \longrightarrow N \longrightarrow (R^{11})_{d}$$

$$R^{6} \longrightarrow (Ib)$$

wherein;

R<sup>1</sup> is hydrogen or methyl;

R<sup>3</sup> is an unsubstituted or substituted 4- to 8- membered non-aromatic heterocyclyl group an unsubstituted or substituted C<sub>3-8</sub> cycloalkyl group, an unsubstituted or substituted straight or branched C<sub>1-10</sub> alkyl;

 $R^6$  is an substituted or unsubstituted ( $C_{1-6}$ )alkyl, ( $C_{3-6}$ )cycloalkyl, or 4- to 7- membered non aromatic heterocyclyl group;

R<sup>11</sup> is selected from halo, cyano, methyl, trifluoromethyl, methoxy, trifluoromethoxy or SCH<sub>3</sub>;

d is 0, 1, 2 or 3;

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or a pharmaceutically acceptable derivative thereof wherein the compound is not {1-[2-(3-chloro-phenylamino)-4-trifluoromethyl-pyrimidin-5-ylmethyl]-piperidin-4-yl}-methanol, formate.

4. A compound as claimed in Claim 1 wherein the compound of formula (I) is a compound of formula (Ic):

wherein

20 R<sup>1</sup> is hydrogen or methyl.

R<sup>3</sup> is group A, pyridinyl, or pyrimidinyl, any of which can be optionally substituted;

Ra is independently selected from hydrogen, fluoro, chloro or trifluoromethyl;
Rb is independently selected from hydrogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, haloC<sub>1-6</sub> alkoxy, hydroxy, cyano, halo, sulfonyl, CONH<sub>2</sub>, COOH or NHCOOC<sub>1-6</sub> alkyl;

 $R^6$  is an substituted or unsubstituted ( $C_{1-6}$ )alkyl, ( $C_{3-6}$ )cycloalkyl or 4- to 7- membered non aromatic heterocyclyl group;

- R<sup>11</sup> is selected from halo, cyano, methyl, trifluoromethyl, methoxy, trifluoromethoxy SCH<sub>3</sub>;
- d is 0, 1, 2 or 3; or a pharmaceutically acceptable derivative thereof.

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- 5. A compound as claimed in any one of claims 1 to 4 wherein R<sup>6</sup> is either cyclopropyl, isopropyl, tert-butyl or trifluoromethyl.
- 6. A compound as claimed in Claim 1 selected from Example 1 to 82 and 85 to 105.
- 7. A pharmaceutical composition comprising a compound as claimed in any one of claims 1 to 6 or a pharmaceutically acceptable derivative thereof and a pharmaceutical carrier or diluent thereof.
  - 8. A pharmaceutical composition as claimed in claim 7 further comprising a second theraputic agent.
- 9. A method of treating a mammal suffering from a condition which is mediated by the activity of cannabinoid 2 receptors which comprises administering to said subject a therapeutically effective amount of a compound of formula (I) as claimed in any one of claims 1 to 6 or a pharmaceutically acceptable derivative thereof.
- 25 10. A compound of formula (I) as claimed in any one of claims 1 to 6 or a pharmaceutically acceptable derivative thereof for use as a medicament in the treatment of pain.